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KILPATRICK STOCKTON LLP 607 14TH STREET, N.W. SUITE 900 WASHINGTON, DC 20005			IRSHADULLAH, M	
			ART UNIT	PAPER NUMBER
			3623	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/598,240

Applicant(s)

GEDDES, NORMAN D.

Examiner

M. Irshadullah

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 13.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This communication is in response to the amendments filed February 24, 2004.

***Summary Of Instant Office Action***

2. Applicant's arguments, filed February 24, 2004, regarding claims 1-3, 5-15, 17-21 and 23-28 rejection under 35 U.S.C. 102 and claims 4, 16 and 22 rejection under 35 U.S.C. 103, Office Action mailed September 24, 2003 have been fully considered and are responded below.
3. Amendments to specification as per Examiner's suggestion are duly appreciated and substitute specification has been entered.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5-15, 17-21 and 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Friedman et al (US Patent 5,995,959).

Friedman et al disclose:

Claim 1. A method for assisting a purchaser in conducting electronic commerce on a computer network, the method comprising:

a) determining a goal for a purchaser, the goal pertaining to a commerce domain (Col. 9, lines 52-56 and col. 15, lines 15-26, wherein "searching from a set of operators describing available information sources to solving user's query {a goal} in terms of said information sources, col. 9, lines 53-55" point to "determining a goal" and "car domain-col. 15, line 21 and People domain-col. 15, line 25" are "domains" relating to trades or commerce); and

b) using a knowledge base to create one or more partial order plans to satisfy the determined goal, the knowledge base having embodied therein information pertaining to the domain of the goal (Fig. 2 {28-30}, col. 8, lines 48-50 and col. 16, lines 17-62, wherein "plan specifying access to 28-30" is employing or using 28-30 which are information sources or knowledge bases-col. 8, lines 48-50". The information sources or knowledge bases 28-30 are being searched by cited "partial order planner" to develop or create a "partial order plan" as indicated by recitation of lines 58-62, col. 16, and as discussed above, 28-30 comprise or embody information relating to above discussed goal).

Claim 2. The method of claim 1, wherein the plan incorporates a list of items necessary to carry out the determined goal (Table A, col. 9, lines 32-50, wherein said

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table shows steps or items needed or necessary to perform or carry out for arrive at or determine above discussed goal).

Claim 3. The method of claim 1, wherein the act of creating a plan to satisfy the determined goal is performed using a partial order planner (Col. 16, line 23 read with lines 17-22).

Claim 5. The method of claim 1, wherein the knowledge base includes one or more plan and goal graphs (Fig. 2 {21-25}, col. 7, line 23 through col. 8, line 54, wherein "determining or representing plan 25-lines 45-46" points to the presence of "a plan" and its "representation in terms of relational schema-lines 39-43" inferring reference's capability for providing diagrammatic or graphic presentation" and as indicated by bi-directional arrows (Fig. 2 {26 and 28-30}), said information is comprised in information sources or knowledge bases 28-30).

Claim 6. The method of claim 1, wherein the knowledge base includes one or more concept graphs (Col. 4, line 59 through col. 5, line 9 and Tables A, B, C, cols. 9, 10 and 11, wherein "A relational schema comprising, head, names of the schema, attributes or arguments indicating types of facts-col. 4, line 65 to col. 5, line 1" and Tables A, B, C comprising pseudo {or conceptual} codes-col. 9, line 32, col. 10, line 45, col. 11, line 27, represent "concept graphs").

Claim 7. A buyer agent for conducting electronic commerce across a computer network, the buyer agent comprising:

a) a knowledge base including information about one or more domains (Fig. 2 (28-30), col. 8, lines 34-54 and col. 15, lines 21-26, wherein "information sources 28-30" are "knowledge bases" and comprise information relating to various arena or domains, such as "The car domain-col. 15, line 21, and The people domain-col. 15, line 25"); and

b) an inference engine with access to the knowledge base (Table C, col. 11, line 7 through col. 12, line 44, wherein sub-procedure FindSolutions functioning as "inference engine as indicated by the recitation "This section explains how sub-procedure FindSolutions tests each ordered sequence found to determine whether it can be elaborated into one or more solutions to the input query-lines 10-13),

c) wherein the inference engine uses the information in the knowledge base to create a plan for conducting electronic commerce (Above discussed FindSolutions or inference engine employs or uses above discussed information sources or knowledge bases 28-30 and "takes a sequence and generates or creates the set of all plans-col. 11, lines 51-53" and said plans relate to above discussed trade or commerce arena or domain).

Claim 8. The buyer agent of claim 7, wherein the knowledge base includes one or more plan goal graphs (See discussion of applicant's claim 5 above).

Claim 9. The buyer agent of claim 7, wherein the knowledge base includes one or more concept graphs (See discussion of applicant's claim 6 above).

Claim 10. The buyer agent of claim 9, wherein the inference engine includes a partial order planner and wherein the inference engine uses the partial order planner to create one or more plan instances (As discussed above, FindSolutions being a sub-procedure of the reference procedure "occam-col. 9, lines 32-50", functions as "inference procedure or engine" would include "partial order planner-col. 16, line 23", and would employ or use it to generate or create above discussed all plans or one or more instances thereof).

Claim 11. The system of claim 10, wherein the inference engine manages life cycle states of the one or more plan instances according to a commitment level of the partial order planner (Col. 2, lines 38-41 and col. 16, lines 22-25. Above discussed FindSolutions {or inference engine} would control or manage "information state or life cycle states as indicated by "information collected at a particular stage in potential execution of a potential query plan-lines 39-41, wherein "particular stage in potential execution of a potential query plan" inferring "life cycle" of the plan and recitation of "sound, complete, free of threats" indicating claimed "commitment level" of cited partial order planner. Moreover, "commitment strategies are known since 1991 (col. 18, {19} lines 40-42), inclusion of which would be considered inherent at the time of applicant's invention).

Claim 12. The system of claim 11, wherein the inference engine manages monitoring of the situation using the one or more concept graphs according to the life cycle states of the one or more plan instances (Col. 12, lines 37-39, wherein "checking" infers "monitoring" and it would allow user to check or monitor claimed a thing or "situation" employing above discussed concept graph based upon the above discussed states or life cycles of cited plans or instances thereof).

Claim 13. The system of claim 12, wherein the inference engine determines what further processing is needed by the partial order planner based on the monitoring of the situation (Col. 12, lines 37-39, wherein "checking whether plan is redundant and returning it to solution only if it is not redundant" inferring "taking further action {returning to solution} if plan were not redundant, and it would depend on above discussed checking or monitoring).

Claim 14. The buyer agent of claim 7, wherein the knowledge base includes one or more scripts, each of the one or more scripts comprising a sequence of partially specified primitive actions (Col. 15, Table 1, wherein entries of the table point to availability of "texts or scripts" including claimed series or sequence of partially assigned or specified actions that would remain same (primitive actions)).

Claim 15. The buyer agent of claim 7, wherein the inference engine includes a partial order planner (See discussion of applicant's claim 10 above).



Claim 17. The buyer agent of claim 7, wherein the buyer agent is an Internet web browser plug-in (Col. 15, lines 25-26, wherein "internet white page" inferring reference's capability to employ "web" technique and a "browser" is an essential element of it).

Claim 18. The buyer agent of claim 17, wherein the buyer agent further includes a monitoring component, the monitoring component recording the actions of a user within the Internet web browser (Col. 12, line 38, wherein "checking" points to "monitoring" and a user would use it for claimed purpose).

Claim 19. A method for assisting a purchaser in conducting electronic commerce on a computer network, the method comprising:

a) using an intent interpreter to determine a goal for a purchaser, the goal pertaining to a commerce domain (Col. 7, lines 50-51, wherein "procedural interpreting" inferring the provision of an "interpreting or intent interpreting" function and about "to determine a goal for a purchaser, the goal pertaining to a commerce domain" see discussion of applicant's claim 1a) above); and

b) using a knowledge base to create one or more partial order plans to satisfy the determined goal, the knowledge base having embodied therein information pertaining to the domain of the goal (See discussion of applicant's claim 1b) above).

Claim 20. The method of claim 19, wherein the plan incorporates a list of items necessary to carry out the determined goal (See discussion of applicant's claim 2 above).

Claim 21. The method of claim 19, wherein the act of creating a plan to satisfy the determined goal is performed using a partial order planner (See discussion of applicant's claim 3 above).

Claim 23. The method of claim 19, wherein the knowledge base includes one or more plan and goal graphs (See discussion of applicant's claim 5 above).

Claim 24. The method of claim 19, wherein the knowledge base includes one or more concept graphs (See discussion of applicant's claim 6 above).

Claim 25. A buyer agent system comprising:

- a) a plurality of intelligent agents, each of the plurality of intelligent agents (Col. 1, line 34 recited with lines 14-17 and col. 9, line 32 through col. 12, line 39, wherein "agents" are "intelligent agents", since the are automated computerized processes or procedures, by this token reference's procedure "occam" and sub-procedures "InstantiateOp and FindSolutions", col. 11, Table A are intelligent agents) including:
  - a) a knowledge base including information about one or more domains (See discussion of applicant's claim 7a) above);

b) an inference engine with access to the knowledge base, the inference engine including a partial order planner (See discussion of applicant's claims 7b) and 10 above);

d) a data management system that collects and distributes data (Fig. 1 {2, 8}, col. 4, lines 47-50); and

e) a graphical user interface system that displays information to a user (Fig. 1 {1}, col. 3, lines 47-51).

Claim 26. The buyer agent system of claim 25, wherein the knowledge base includes one or more concept graphs (See discussion of applicant's claim 6 above).

Claim 27. The buyer agent system of claim 26, wherein each agent of the plurality of intelligent agents determines the intentions of one or more users and wherein the data management system of a first agent of the plurality of intelligent agents shares data with a second agent of the plurality of intelligent agents representing the determined intentions of the one or more users to facilitate collaboration (See discussion of applicant's claims 25a), 19a) above and user would employ cited intelligent agents of 25a) to find or determine intentions using intent interpreter of 19a) for claimed purposes).

Claim 28. The buyer agent system of claim 27, wherein the system uses the shared data to automatically detect conflicts between the one or more users (Col. 14,

lines 22-30, wherein "executing the same operator twice not returning new tuples-lines 26-29" inferring availability of a function which checks for or detects duplication or conflict).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al (US Patent 5,995,959) in view of Shasha (US Patent 5,809,212).

In the following claims:

Claims 4, 16 and 22. The method of claims 1/7/19, wherein the act of creating a plan to satisfy the determined goal is performed using a non-monotonic truth maintenance system.

Friedman et al teach:

creating a plan to satisfy the determined goal (Col. 2, lines 52-57),

Friedman et al do not teach:

a non-monotonic truth maintenance system.

However, Shasha teaches the same (Col. 3, lines 38-42). Friedman et al and Shasha both employ AI procedures to solve problems relating to various commercial areas or domain. While Friedman et al teach creating plan for solving a user's query or problem

concerning trade, such as car buying, Shasha teaches non-monotonic truth maintenance system.

It would have been obvious to one of ordinary skill in the relevant art at the time of applicant's invention to incorporate Shasha's feature into Friedman et al's invention, thereby providing a system for an improved representation of networks of facts, belief and expectations so that a user would acquire qualified statements of knowledge from the system as desired.

### ***Response to Arguments***

8. Applicant's arguments filed February 24, 2004 have been fully considered and are responded below.

Applicant argues that:

a) Friedman et al do not anticipate Applicant's invention.

In this respect, Applicant is directed, for instance, to the following discussion about his claim elements 1a) and 1b).

Regarding element 1a), Applicant is referred to Friedman et al's col. 9, lines 52-63 and col. 15, lines 15-26, wherein in the recitation "user query Q input to the reference's planning method procedure occam, col. 9, lines 32-33 recited with lines 56-63", "user" being generic term representing "buyer or purchaser", who intends to buy a car or seeking information about internet white pages, col. 15, lines 21-26", "plan solving or finding a solution" to the query of above mentioned user or purchaser representing "a goal" and "searching from a set of operators describing available information sources"

for solving said user's query or goal in terms of said information sources, col. 9, lines 52-63" indicating "searching or determining" said goal or solution to user's query; and cited "car domain comprising price information on foreign or domestic cars, col. 15, lines 21-22" and "people domain encoding internet white pages, col. 15, line 25" representing claimed "trade or business domains".

Moreover, Fig. 2, described col. 8, lines 34-54, providing further support to the above discussed features.

Relative to element 1b), Applicant is referred to Friedman et al's Fig. 2 {Information sources 28-30}, described col. 8, lines 43-50 and col. 16, lines 17-62, wherein "plan 25 specifying sequence of accesses to information sources, A28, B29, C30" indicating that said plan "employing or using information sources 28-30" and said information sources representing claimed "knowledge base" as per recitation "reference methods automating the process of locating relevant information sources {28-30} from repository of source {providers of databases or repositories comprising information or knowledge} models and combining them appropriately to answer user's information query, col. 2, lines 52-57". Furthermore, said information sources comprising information, such as discussed above, prices etc. on foreign and domestic cars. Also, information sources are information producing sites represented by modeling the type of information queries that respond to and specify mapping between output of said queries and relational schema in the information domain, col. 5, lines 24-29. Applicant defines "knowledge base" as "collection of knowledge {or information, Examiner's} regarding objects, concepts, relationships etc. that is used by inference engine, page 8, lines 8-11,

and inference engine is a computer program that uses knowledge base and a set of operators, page 8, lines 4-6". Thus, Friedman et al's information sources comprising information or knowledge, such as relating to cars, prices thereof etc. and mapping requisite relational schema, represent claimed "knowledge base(s)".

Moreover, recitation of "described method is sound, complete, partial order planner, col. 16, lines 22-23" indicating reference's use of partial order planning procedure and producing "partial order plans" as per "the invention providing method for handling partial goal or plan satisfaction; i.e., gather as much data or information as possible when methods cannot gather exactly all that user requested {or obtain complete answer or solution to user's query}, col. 2, lines 22-24 read with lines 9-11", and as discussed above, information sources 28-30 "store or embody" information relating to "solving the user's query or goal or domain of the goal".

Thus, Friedman et al teach all claim 1 limitations as claimed and the Office Action under discussion, provided a prima facie case of anticipation.

b) Friedman et al employ full order planner and their information sources are not knowledge base.

For this, Applicant is requested to peruse the discussion above.

c) Friedman et al do not teach: "plan incorporating a list of items necessary to carry out the determined goal".

In this regard, Applicant is directed to Friedman et al's Table A, col. 9, lines 32-50, wherein lines 32-34 recite: Table A presenting pseudo code relating to general planning method which reference's occam uses and procedural steps in Table A

representing "list of steps or items needed or necessary" by occur "to perform or carry out" for "arriving at or determining" the above discussed "solution to user's query or goal".

d) Friedman et al develop a plan to meet a goal and do not determine a goal.

In this reference, Applicant is referred to reference's col. 11, lines 43-55, wherein cited FindSolutions sub procedure generating set of all plans whose tuples guaranteeing user's query or queries satisfaction and said plans are "solutions to the query or queries" which, as discussed above is the "goal".

e) Friedman et al do not teach knowledge base including goal and concept graphs.

Relative to this, Applicant is directed to Fig. 2 {21-25}, col. 7, line 23 through col. 8, line 54, wherein "determining or representing plan 25, lines 45-46" pointing to the presence of "a plan" and its "representation in terms of relational schema, lines 39-43" inferring reference's providing diagrammatic or graphic presentation, such as Tables A, B, C", a user would employ reference's tabular representation for above discussed "solution to user's query or goal", and as indicated by bi-directional arrows, Fig. 2 {26 and 28-30}, said information is comprised in information sources or knowledge bases 28-30.

Regarding "knowledge base including concept graph", Applicant is referred to Col. 4, line 59 through col. 5, line 9 and Tables A, B, C, cols. 9, 10 and 11, wherein "A relational database schema comprising, head, names of the schema, attributes or arguments indicating types of facts related together by the schema, col. 4, line 65 to col.



5, line 1" and Tables A, B, C comprising pseudo codes, col. 9, line 32, col. 10, line 45, col. 11, line 27, representing "concept graphs". Since cited head, names of the schema, attributes or arguments etc. and Tables A, B, C are stored in information sources or databases 28-30 in database format or schema or structures, col. 4, lines 42-47, they are "comprised or included" in said information sources or knowledge bases. For representation format of goal and concept graphs in tabular format, please see enclosed Clancey et al's Patent 6,292, 811 B1: col. 9, lines 8-47 and Rennison et al's Patent 6,154,213: col. 22, lines 48-49 recited with col. 32, lines 37-42.

f) Shasha does not teach "using non-monotonic truth maintenance system for determining a goal for purchaser" and there is no suggestion in Shasha or Friedman et al to use said system for claimed purpose.

Regarding this, Applicant is reminded of the following case law:

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Furthermore, Applicant's claims 4, 16 and 22 do not claim the alleged feature, what they recite is: "creating a plan to satisfy the determined goal is performed by using a non-monotonic truth maintenance system".

Relative to this, as discussed in the Office Action, Friedman et al teach:

creating a plan to satisfy the determined goal (Col. 2, lines 52-57, wherein reference's planning method locating requisite information sources, such as Fig. 2 {28-

30}, combining them {creating a plan} to produce answer for information query {a goal}, such as price of a car, col. 15, lines 21-22).

Friedman et al do not teach:

a non-monotonic truth maintenance system.

However, Shasha teaches the same (Col. 3, lines 31-42, wherein it is stated that non-monotonic truth maintenance systems are in vogue since long and are used for modeling belief systems). A reasonable motivation was provided which came from Shasha, col. 4, lines 4-10.

g) Similar reasoning holds in respect of arguments relating to rest of the claims.

In the light of above mentioned facts, it is stated that Applicant's arguments have been fully considered, deemed unpersuasive and prior rejections are maintained.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Irshadullah whose telephone number is 703-308-6683. The examiner can normally be reached Monday-Friday between 10:00 a.m. and 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 and for after Final 703-872-9327.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
M. Irshadullah  
May 18, 2004

  
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